

## ABSTRACT

## Measuring efficiency of data transmission

[30990139]

Retransmission of packets in a TCP network is measured by monitoring packets  
5 traversing bearer links between nodes and examining the sequence number within its  
connection of each packet. For each TCP connection being monitored a next expected  
sequence number (NESN) value is maintained and compared with the actual sequence  
number of a packet in that connection. If the sequence number is less than the NESN, a  
retransmission count is incremented by the size of the retransmitted TCP payload; if it is  
10 greater than the NESN, a loss counter is incremented by the size of the lost TCP payload.  
The resulting counts of the lost and retransmitted TCP payload, of the lost and retransmitted  
packets, enable accurate measurements to be made even at a point remote from the sending  
node. Comparison of counts from spaced points in a network can enable the location of a  
fault to be determined at least approximately.

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(Fig. 2)